

IN THE CLAIMS

Please amend claims 5, 12 and 19 as indicated below.

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claim 1 (original) A method of modeling computationally complex problems comprising:

mapping a first set of physical entities to a first set of entities in a massively multiplayer online game;

mapping a second set of physical entities to a second set of entities in the massively multiplayer online game, wherein each player in the massively multiplayer online game manipulate members of the second set of entities to interact with the first set of entities in accordance with a quest defined in the massively multiplayer online game;

identifying a subset of members of the second set of physical entities corresponding to members of the second set of entities in the massively multiplayer online game having an outcome exceeding a preselected outcome; and

sending results of the quest and the identified subset of members of the second set of physical entities to a remote data processing system for analysis.

Claim 2 (original) The method of claim 1 further comprising logging each interaction of the members of the first and second sets in response to player manipulations and corresponding outcomes of said quest of each of the interactions.

Claim 3 (original) The method of claim 2 wherein said subset of members of the second set of physical entities comprises a sequence of second entities selected from an output of said logging step, and wherein a physical model problem solution comprises said sequence of second entities.

Claim 4 (original) The method of claim 3 wherein a set of transitions between members of said sequence of said second entities comprises an algorithm for said physical model problem solution.

Claim 5 (currently amended) The method of claim 1 wherein said subset of members of the second set of physical entities defines a set ~~of a set~~ of experimental protocols for testing against a subset of said first set of physical entities wherein said subset of said first set of physical entities comprises an inverse mapping of members of the second set of entities in the massively multiplayer online game having an outcome exceeding a preselected outcome.

Claim 6 (original) The method of claim 5 wherein:

said first set of physical entities comprises pathogenic organisms;

said first set of entities in a massively multiplayer online game comprises antagonists in said massively multiplayer online game;

said second set of physical entities comprises pharmaceutical agents; and

said second set of entities in the massively multiplayer online game comprises characters and equipment in said massively multiplayer online game.

Claim 7 (original) The method of claim 1 wherein the said first set of physical entities comprises optimization constraints, and said first set of entities in a massively multiplayer online game comprises characters and equipment in said massively multiplayer online game.

Claim 8 (original) A computer program product embodied in a machine-readable medium comprising programming for modeling computationally complex problems comprising programming instructions for:

mapping a first set of physical entities to a first set of entities in a massively multiplayer online game;

mapping a second set of physical entities to a second set of entities in the massively multiplayer online game, wherein each player in the massively multiplayer online game manipulate members of the second set of entities to interact with the first

set of entities in accordance with a quest defined in the massively multiplayer online game;

identifying a subset of members of the second set of physical entities corresponding to members of the second set of entities in the massively multiplayer online game having an outcome exceeding a preselected outcome; and

sending results of the quest and the identified subset of members of the second set of physical entities to a remote data processing system for analysis.

Claim 9 (original) The computer program product of claim 8 further comprising programming instructions for logging each interaction of the members of the first and second sets in response to player manipulations and corresponding outcomes of said quest of each of the interactions.

Claim 10 (original) The computer program product of claim 9 wherein said subset of members of the second set of physical entities comprises a sequence of second entities selected from an output of said logging step, and wherein a physical model problem solution comprises said sequence of second entities.

Claim 11 (original) The computer program product of claim 10 wherein a set of transitions between members of said sequence of said second entities comprises an algorithm for said physical model problem solution.

Claim 12 (currently amended) The computer program product of claim 8 wherein said subset of members of the second set of physical entities defines a set of experimental protocols for testing against a subset of said first set of physical entities wherein said subset of said first set of physical entities comprises an inverse mapping of members of the second set of entities in the massively multiplayer online game having an outcome exceeding a preselected outcome.

Claim 13 (original) The computer program product of claim 12 wherein:

said first set of physical entities comprises pathogenic organisms;

said first set of entities in a massively multiplayer online game comprises antagonists in said massively multiplayer online game;

said second set of physical entities comprises pharmaceutical agents; and

said second set of entities in the massively multiplayer online game comprises characters and equipment in said massively multiplayer online game.

Claim 14 (original) The computer program product of claim 8 wherein said first set of physical entities comprises optimization constraints, said first set of entities in a massively multiplayer online game comprises characters and equipment in said massively multiplayer online game.

Claim 15 (original) A data processing system for modeling computationally complex problems comprising:

circuitry operable for mapping a first set of physical entities to a first set of entities in a massively multiplayer online game;

circuitry operable for mapping a second set of physical entities to a second set of entities in the massively multiplayer online game, wherein each player in the massively multiplayer online game manipulate members of the second set of entities to interact with the first set of entities in accordance with a quest defined in the massively multiplayer online game;

circuitry operable for identifying a subset of members of the second set of physical entities corresponding to members of the second set of entities in the massively multiplayer online game having an outcome exceeding a preselected outcome; and

sending results of the quest and the identified subset of members of the second set of physical entities to a remote data processing system for analysis.

Claim 16 (original) The data processing system of claim 15 further comprising circuitry operable for logging each interaction of the members of the first and second sets in response to player manipulations and corresponding outcomes of said quest of each of the interactions.

Claim 17 (original) The data processing of claim 16 wherein said subset of members of the second set of physical entities comprises a sequence of second entities selected

from an output of said logging step, and wherein a physical model problem solution comprises said sequence of second entities.

Claim 18 (original) The data processing system of claim 17 wherein a set of transitions between members of said sequence of said second entities comprises an algorithm for said physical model problem solution.

Claim 19 (currently amended) The data processing system of claim 16 wherein said subset of members of the second set of physical entities defines a set of ~~a set of~~ experimental protocols for testing against a subset of said first set of physical entities wherein said subset of said first set of physical entities comprises an inverse mapping of members of the second set of entities in the massively multiplayer online game having an outcome exceeding a preselected outcome.

Claim 20 (original) The data processing system of claim 19 wherein:

said first set of physical entities comprises pathogenic organisms;

said first set of entities in a massively multiplayer online game comprises antagonists in said massively multiplayer online game;

said second set of physical entities comprises pharmaceutical agents; and

said second set of entities in the massively multiplayer online game comprises characters and equipment in said massively multiplayer online game.

Claim 21 (original) The data processing system of claim 15 wherein said first set of physical entities comprises optimization constraints, and said first set of entities in a massively multiplayer online game comprises characters and equipment in said massively multiplayer online game.